

PROJECTED ECONOMIC IMPACTS OF A
MACHINE TOOL MANUFACTURING FIRM ON NEWTON FALLS, OHIO*

The attached results show the impacts on the city of Newton Falls, Newton Falls Exempted Village School District, and Trumbull County of a typical firm which manufactures machine tools. It is estimated that 167 persons would be employed. Most of the community data came from reports issued by the state auditor and has not been verified with local officials. Data on the firm are derived from the 1972 Census of Manufactures.

Based upon results of previous research, it was assumed that 40 percent of the new plant employees would be residents of Newton Falls, 30 percent would commute from the rest of Trumbull County, 10 percent would move into the county, and 20 percent would commute from outside the county.

Employees in Newton Falls are estimated to earn \$809,322 more than they would otherwise in the first year if the plant was established. Employees in the rest of Trumbull County should earn \$563,635 more in the first year. Depending on where they live, these employees are estimated to spend from 20 to 60 percent of their new income in Newton Falls. When combined with multiplier effects, this would increase the incomes of area merchants and their employees by \$127,613 in the first year.

The tax base in the county would expand enough to provide both Newton Falls and Trumbull County with greater increases in revenues than in expenditures. The city should have a net increase in revenues of \$22,841 in the first year. By year 20, this should increase to \$28,174 (after removing inflation) due to the city's 1 percent income tax. Income tax revenues increase over time as real wages rise.

Trumbull County government should have a net gain of \$6,327 in the first year, but is estimated to fall to \$5,579 in year 20. This decline occurs because property tax revenues on outside millage are frozen at 1977 levels.

The Newton Falls Exempted Village School District is estimated to have negative impacts initially because the state aid to education is reduced by \$20,654 (year 1). This becomes positive because the analysis assumes state aid to education will increase at 8.5 percent per year. If this does not occur, the impacts would be negative over the entire time. This uneven pattern of school impacts is a result of the Ohio education finance system which combines an equal yield formula for state aid, a guarantee of no reduction in state aid from one year to the next, a partial freeze on local property tax revenues, and property valuations which change only once every three years.

If a ten year abatement would be given to this firm, the net gains for the city should be \$22,429 in year 1, or about 2 percent less than they would

*Prepared by George Morse, Resource Economist, and John David Gerard, Technical Assistant, Economic Research, Department of Agricultural Economics and Rural Sociology, Ohio Agricultural Research and Development Center and the Ohio State University, June 1979. Revised August 1979, ESO 649.

be without any abatement. With the abatement, the county should have net gains of \$5,868 in the first year, or about 7 percent less. An abatement would apply only to taxes from improvements to real property and not to tangible personal property taxes or income taxes.

If no tax abatement is provided, the city's breakeven level of investment for site improvements to attract this type of firm would be \$103,152 (assuming a 9 percent discount rate). Thus, up to \$103,152 could be invested by the city without raising the tax rates. The county could invest another \$25,679.

These estimates are derived from the Ohio Economic Growth Impact Model. The data used in this analysis are attached. Because the model has been computerized, different situations can be easily examined.

There is no charge for impact studies conducted through an area agent for Community and Natural Resource Development of the Ohio Cooperative Extension Service. For more information contact your county Cooperative Extension Service office which can put you in touch with your area C&NRD agent.

OHIO ECONOMIC GROWTH IMPACT MODEL

THE OBJECTIVE OF THIS ANALYSIS IS TO ASSIST PEOPLE AT THE LOCAL GOVERNMENT LEVEL IN EXAMINING THE FISCAL IMPACTS OF VARIOUS GROWTH POLICIES, SUCH AS GRANTING TAX ABATEMENTS, EXTENDING WATER AND SEWER LINES, AND DEVELOPING INDUSTRIAL PARKS. CHANGES DUE TO THE LOCATION OF A NEW FIRM ARE ESTIMATED FOR CITY, COUNTY, AND SCHOOL DISTRICT REVENUES AND EXPENDITURES. THE EFFECTS ON THE SERVICE SECTOR (RETAIL STORES) IN THE TOWN AND PERSONAL INCOME IN THE TOWN AND COUNTY ARE ALSO ESTIMATED.

THE OHIO ECONOMIC GROWTH IMPACT MODEL WAS DEVELOPED BY DR. GEORGE W. MORSE, RESOURCE ECONOMIST, AND JOHN DAVID GERARD, TECHNICAL ASSISTANT, ECONOMIC RESEARCH, DEPARTMENT OF AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY, OHIO AGRICULTURAL RESEARCH AND DEVELOPMENT CENTER, THE OHIO STATE UNIVERSITY. FUNDING WAS PROVIDED BY THE U.S. DEPARTMENT OF AGRICULTURE, PURSUANT TO TITLE V OF THE RURAL DEVELOPMENT ACT OF 1972.

● FOR MORE INFORMATION, CONTACT:

GREG PASSEWITZ
AREA EXTENSION AGENT,
COMMUNITY RESOURCE DEVELOPMENT
CANFIELD AREA EXTENSION CENTER
P.O. BOX 187
CANFIELD, OHIO 44406
TELEPHONE: (216) 533-3453

PRIVATE SECTOR BENEFITS

YEAR 1

NEW INCOME, EMPLOYEES IN CITY	809322.
NEW INCOME, EMPLOYEES IN COUNTY	563635.
NEW INCOME, SERVICE SECTOR	127613.

CITY GOVERNMENT

ADDITIONAL REVENUES	
PROPERTY TAXES, NEW PLANT	153.
PROPERTY TAXES, NEW HOMES	2587.
PROPERTY TAXES, ADDITIONAL TANGIBLE	290.
INCOME TAX	21220.
STATE AID	0.
MISC TAXES, NEW RESIDENTS	167.
TOTAL	24417.
ADDITIONAL EXPENDITURES	
POLICE	375.
FIRE	450.
WATER	425.
SEWER	112.
STREETS	132.
OTHER	82.
CAPITAL EXPENSES	0.
TOTAL	1576.
NET REVENUES	22841.

COUNTY GOVERNMENT

ADDITIONAL REVENUES	
PROPERTY TAXES, NEW PLANT	191.
PROPERTY TAXES, NEW HOMES	5353.
PROPERTY TAXES, ADDITIONAL TANGIBLE	398.
SALES TAX	0.
STATE AID	375.
MISC TAXES, NEW RESIDENTS	163.
TOTAL	6480.
ADDITIONAL EXPENDITURES	
CAPITAL EXPENSES	0.
SERVICES, NEW RESIDENTS	153.
TOTAL	153.
NET REVENUES	6327.

SCHOOL DISTRICT

ADDITIONAL REVENUES	
PROPERTY TAXES, NEW PLANT	916.
PROPERTY TAXES, NEW HOMES	25662.
PROPERTY TAXES, ADDITIONAL TANGIBLE	1903.
STATE AID	-20654.
MISC REVENUES	413.
TOTAL	8240.
ADDITIONAL EXPENDITURES	
OPERATING EXPENSES, NEW STUDENTS	9415.
CAPITAL EXPENSES	0.
TOTAL	9415.
NET REVENUES	-1175.

PUBLIC FINANCE IMPACTS OF NEW JOES

FIRM CODE: 3541
COMMUNITY: NEWTON FALLS

INDUSTRY CODE: MACHINE TOOL
SCHOOL DISTRICT: NEWTON FALLS

DATA CODE: 010101
COUNTY: TRUMBULL

ANNUAL NET BENEFITS TO:

	CITY	COUNTY	SCHOOL DISTRICT
YEAR 1	22841.	6327.	-1175.
YEAR 2	23178.	6208.	477.
YEAR 3	23227.	5781.	-361.
YEAR 4	23275.	5385.	-438.
YEAR 5	24073.	5903.	8152.
YEAR 6	24072.	5521.	6101.
YEAR 7	24080.	5171.	4243.
YEAR 8	24845.	5696.	13788.
YEAR 9	24833.	5337.	11394.
YEAR 10	24842.	5009.	9221.
YEAR 11	25632.	5571.	20060.
YEAR 12	25619.	5229.	17275.
YEAR 13	25628.	4917.	14741.
YEAR 14	26448.	5516.	27098.
YEAR 15	26434.	5186.	23862.
YEAR 16	26443.	4886.	20914.
YEAR 17	27295.	5521.	35031.
YEAR 18	27280.	5201.	31277.
YEAR 19	27289.	4909.	27853.
YEAR 20	28174.	5579.	44008.
PRESENT VALUE OVER 20 YEARS AT 9.0% INTEREST	224113.	50953.	92698.
PRESENT VALUE ADJUSTED FOR PLANT FAILURE	103152.	25679.	-789.

SECTION ONE: FIRM AND EMPLOYMENT DATA

1	INDUSTRIAL CLASSIFICATION	
A.	TYPE OF BUSINESS	MACHINE TOOL
B.	SIC CODE	3541
2	LOCATION OF NEW FIRM	
A.	VILLAGE OR CITY	NEWTON FALLS
B.	SCHOOL DISTRICT	NEWTON FALLS
C.	COUNTY	TRUMBULL
3	NEW JOBS CREATED	167
4	RESIDENTIAL LOCATION OF WORKERS (PERCENT OF TOTAL)	
A.	MUNICIPAL RESIDENTS	0.40
B.	REST OF COUNTY RESIDENTS	0.30
C.	IN-MIGRANTS TO THE CITY	0.05
D.	IN-MIGRANTS TO THE COUNTY	0.05
E.	COMMUTERS FROM OUTSIDE COUNTY	0.20
5	AVERAGE ANNUAL WAGES	
A.	FOR LOCAL EMPLOYEES	17308.
B.	FOR IN-MIGRANTS	19904.
C.	ANNUAL RATE OF CHANGE	0.095
6	NEW PLANT'S MARKET VALUE	
A.	BUILDINGS AND OTHER REAL PROPERTY	130909.
B.	TANGIBLE PERSONAL PROPERTY	210955.
7	PERCENTAGE OF WORKERS' INCOME SPENT IN THE MUNICIPALITY AND COUNTY	
A.	BY MUNICIPAL RESIDENTS IN CITY	0.400
B.	BY MUNICIPAL RESIDENTS IN COUNTY	0.500
C.	BY REST OF COUNTY RESIDENTS IN CITY	0.300
D.	BY REST OF COUNTY RESIDENTS IN COUNTY	0.400
E.	BY COMMUTERS IN CITY	0.100
F.	BY COMMUTERS IN COUNTY	0.250
8	FAMILY SIZE PER EMPLOYEE	3.500
9	INCOME MULTIPLIER	1.200
10	RATIO OF HOME VALUES TO INCOME	2.000

SECTION TWO: TAX DATA

1 PROPERTY TAX RATES AND REDUCTION FACTORS

A. COUNTY INSIDE MILLAGE	2.300
B. COUNTY OUTSIDE MILLAGE	2.300
C. COUNTY TAX REDUCTION FACTOR	0.185451
D. SCHOOL INSIDE MILLAGE	3.900
E. SCHOOL OUTSIDE MILLAGE	13.100
F. SCHOOL TAX REDUCTION FACTOR	0.137881
G. CITY INSIDE MILLAGE	3.350
H. CITY OUTSIDE MILLAGE	0.0
I. CITY TAX REDUCTION FACTOR	0.0

2 YEAR OF LAST APPRAISAL OR UPDATE 1978

3 EXPECTED ANNUAL RATE OF CHANGE IN PROPERTY VALUES 0.130

4 SCHOOL DISTRICT TAX BASE - TAXABLE VALUES

A. REAL PROPERTY	35373170.
B. TANGIBLE PERSONAL PROPERTY	3793723.
C. TANGIBLE PERSONAL PUBLIC UTILITY PROPERTY	3669490.
D. YEAR TO WHICH VALUATIONS APPLY	1978

SECTION THREE: COUNTY DATA

1 COUNTY PERMISSIVE SALES TAX RATE 0.0

2 CHANGES IN STATE AND FEDERAL AID 375.00

3 MISCELLANEOUS COUNTY REVENUE PER CAPITA 5.57

4 COUNTY OPERATING EXPENSES PER CAPITA

A. CURRENT OPERATING EXPENSES	5.25
B. EXPECTED RATE OF CHANGE	0.070

5 TOTAL ANNUAL CAPITAL COSTS

YEAR 1	0.0
YEAR 2	0.0
YEAR 3	0.0
YEAR 4	0.0
YEAR 5	0.0
YEAR 6	0.0
YEAR 7	0.0
YEAR 8	0.0
YEAR 9	0.0
YEAR10	0.0
YEAR11	0.0
YEAR12	0.0
YEAR13	0.0
YEAR14	0.0
YEAR15	0.0
YEAR16	0.0
YEAR17	0.0
YEAR18	0.0
YEAR19	0.0
YEAR20	0.0

SECTION FOUR: SCHOOL DISTRICT DATA

1 ENROLLMENT

A. CURRENT AVERAGE DAILY ENROLLMENT	2096
B. ANNUAL RATE OF CHANGE IN ENROLLMENT	0.0
C. INCREASE IN ENROLLMENT DUE TO NEW PLANT	7

2 TOTAL STATE BASIC AID IN YEAR BEFORE STUDY 971160.

3 ANNUAL RATE OF CHANGE IN STATE SUPPORT 0.070

4 TOTAL CURRENT TRANSPORTATION AID 31000.

5 MISCELLANEOUS REVENUE PER PUPIL 59.00

6 SCHOOL OPERATING EXPENDITURES PER PUPIL

A. CURRENT	1345.00
B. ANNUAL RATE OF CHANGE	0.070

7 ADDITIONAL RESOURCES NEEDED

A. TEACHERS	0.0
B. CLASSROOMS	0.0

8 ADDITIONAL CAPITAL COSTS

YEAR 1	0.0
YEAR 2	0.0
YEAR 3	0.0
YEAR 4	0.0
YEAR 5	0.0
YEAR 6	0.0
YEAR 7	0.0
YEAR 8	0.0
YEAR 9	0.0
YEAR10	0.0
YEAR11	0.0
YEAR12	0.0
YEAR13	0.0
YEAR14	0.0
YEAR15	0.0
YEAR16	0.0
YEAR17	0.0
YEAR18	0.0
YEAR19	0.0
YEAR20	0.0

SECTION FIVE: MUNICIPAL DATA

1 MUNICIPAL POPULATION

A. CURRENT	5436
B. ANNUAL RATE OF GROWTH	0.010

2 MUNICIPAL INCOME TAX RATE	0.010
-----------------------------	-------

3 YEARS OF TAX ABATEMENT	0
--------------------------	---

4 CHANGES IN STATE AND FEDERAL AID	0.0
------------------------------------	-----

5 MISCELLANEOUS REVENUE PER CAPITA	5.70
------------------------------------	------

6 CURRENT ANNUAL OPERATION COST PER PERSON OF MUNICIPAL SERVICES

A. POLICE	15.00
B. FIRE	18.00
C. WATER	17.00
D. SEWER	4.50
E. STREETS	5.30
F. OTHER	3.30

7 EXCESS CAPACITY OF MUNICIPAL SERVICES (PERCENT)

A. POLICE	0.0
B. FIRE	0.0
C. WATER	0.0
D. SEWER	0.0

8 ADDITIONAL ANNUAL OPERATIONAL COSTS FOR MUNICIPAL SERVICES

A. POLICE	375.00
B. FIRE	450.00
C. WATER	425.00
D. SEWER	112.00
E. STREETS	132.00
F. OTHER	82.00

9 CAPITAL INVESTMENTS BY MUNICIPALITY

YEAR 1	0.0
YEAR 2	0.0
YEAR 3	0.0
YEAR 4	0.0
YEAR 5	0.0
YEAR 6	0.0
YEAR 7	0.0
YEAR 8	0.0
YEAR 9	0.0
YEAR10	0.0
YEAR11	0.0
YEAR12	0.0
YEAR13	0.0
YEAR14	0.0
YEAR15	0.0
YEAR16	0.0
YEAR17	0.0
YEAR18	0.0
YEAR19	0.0
YEAR20	0.0

SECTION SIX: OTHER DATA

1	LENGTH OF ANALYSIS	20
2	DISCOUNT RATE	0.090
3	RATE OF INFLATION	0.085
4	RATIO OF VALUE ADDED TO SALES SERVICE SECTOR	0.200
5	PROPORTION OF NEW HOUSING OUTSIDE COMMUNITY REINVESTMENT AREA	
	A. IN THE CITY	0.900
	B. IN THE COUNTY	0.950
6	CUMULATIVE PROBABILITY OF PLANT FAILURE	
	YEAR 1	0.020
	YEAR 2	0.139
	YEAR 3	0.257
	YEAR 4	0.376
	YEAR 5	0.473
	YEAR 6	0.547
	YEAR 7	0.593
	YEAR 8	0.634
	YEAR 9	0.666
	YEAR10	0.694
	YEAR11	0.714
	YEAR12	0.734
	YEAR13	0.754
	YEAR14	0.774
	YEAR15	0.794
	YEAR16	0.814
	YEAR17	0.834
	YEAR18	0.854
	YEAR19	0.874
	YEAR20	0.894